

REMARKS/ARGUMENTS

Reconsideration of the application as amended is respectfully requested.

Status of Claims

Claims 1-13 are pending in the application, with claim 1 being the only independent claim. Claim 1-13 have been amended. Claims 14-30, which are drawn to a non-elected invention, have been canceled, without prejudice.

Overview of the Office Action

Claims 1 and 2 stand rejected under 35 U.S.C. 102(a) as being anticipated by JP 2001-250678 (*Akatsu*).

Claims 3 and 4 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Akatsu* in view of U.S. Patent No. 6,553,788 (*Ikeda*).

Claim 5 stands rejected under 35 U.S.C. 103(a) as being unpatentable over *Ikeda*.

Claims 6-13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Ikeda* in view of U.S. Patent Nos. 6,423,125 (*Ishibashi*) and 6,568,995 (*Mitani*).

Summary of Subject Matter Disclosed in the Specification

The following descriptive details are based on the specification. They are provided only for the convenience of the Examiner as part of the discussion presented herein, and are not intended to argue limitations which are unclaimed.

The specification discloses a method of manufacturing a transparent substrate 1 that is to have a transparent conductive film 3 formed on a surface thereof. This method includes

controlling a surface smoothness of the surface of the transparent substrate 1 to satisfy $0 \text{ nm} \leq R_z \leq 4 \text{ nm}$, and controlling a surface smoothness of a surface of the transparent conductive film 3 to satisfy $0 \text{ nm} \leq R_z \leq 8 \text{ nm}$. See Fig. 1; and paragraphs [0008], [0020], [0038] and [0042] to [0049] of the specification.

As illustrated in Fig. 1, the transparent substrate 1 and the transparent conductive film 3 can be used to form an organic electroluminescent (EL) device 10, with the transparent conductive film 3 serving as an anode and a thin metallic film layer 7 serving as a cathode. If a direct current voltage is applied between the transparent conductive film 3 and the thin metallic film layer 7, then holes from the transparent conductive film 3 reach a light-emitting layer 6 via a hole transport layer 5, and electrons from the thin metallic film layer 7 reach the light-emitting layer 6, and these holes and electrons recombine in the light-emitting layer 6, whereby light is emitted, mostly in the direction of the arrow A in FIG. 1. See Fig. 1; and paragraph [0044] of the specification.

However, if there are marked surface undulations on the film-formed substrate 4 that acts as the anode, i.e. surface height differences are large, then an electric field may be concentrated at the projecting parts, and hence small electrical discharges may occur, and thus the organic EL device 10 may fail, or non-luminescent spots may arise, i.e. the durability of the organic EL device 10 will be markedly reduced. Consequently, to maintain a good light emission state and improve durability, the surface of the film-formed substrate 4 is required to have as small as possible surface height differences.

It has been found that when a surface smoothness of the surface of the transparent substrate 1 is controlled to satisfy $0 \text{ nm} \leq R_z \leq 4 \text{ nm}$ and a surface smoothness of a surface of the transparent conductive film 3 is controlled to satisfy $0 \text{ nm} \leq R_z \leq 8 \text{ nm}$, no non-luminescent

spots are found on the organic EL device 10. See Tables 1 and 2 of the specification. Thus, this method improves durability of such organic EL devices, increases manufacturing yield, and reduces manufacturing costs. See paragraphs [0006], [0007] and [0038] of the specification.

Arguments

Independent Claim 1

Claim 1 has been amended to recite that “controlling a surface smoothness of a surface of the transparent conductive film to satisfy $0 \text{ nm} \leq R_z \leq 8 \text{ nm}$.” Support for this amendment can be found, for example, in paragraph [0020], [0038] and Tables 1 and 2 of the specification.

Applicants respectfully submit that amended claim 1 is not anticipated by *Akatsu* because *Akatsu* fails to disclose, either expressly or inherently, each and every element as set forth in amended claim 1. In particular, *Akatsu* fails to disclose or suggest the above-quoted recitation of amended claim 1.

In the organic EL device of *Akatsu*, a metallic-oxide transparent electrode layer is formed on a thermoplastics substrate. See Abstract; and claim 1 of translated *Akatsu*. Although *Akatsu* discusses the surface smoothness of the thermoplastics substrate (see paragraph [0007] of the translated *Akatsu*), *Akatsu* is completely silent on the surface smoothness of the metallic-oxide transparent electrode layer. Therefore, *Akatsu* fails to disclose or suggest the limitation “controlling a surface smoothness of a surface of the transparent conductive film to satisfy $0 \text{ nm} \leq R_z \leq 8 \text{ nm}$,” as recited in amended claim 1 of the present application.

In view of the foregoing, withdrawal of the 35 U.S.C. 102(b) rejection of claim 1 as anticipated by *Akatsu* is respectfully requested.

Moreover, as discussed above, the claimed method improves durability of organic EL devices, increases manufacturing yield, and reduces manufacturing costs.

Furthermore, it is noted that none of the other applied prior art supplies what is missing from *Akatsu*. *Ikeda* relates to a glass substrate and a method for manufacturing a magnetic disk which has a fine textured surface (*see col. 1, lines 6-9 of Ikeda*). *Ishibashi*, on the other hand, relates to a polishing composition suitable for final polishing of the surface of memory hard disks in the production of such memory hard disks (*see col. 1, lines 3-5 of Ishibashi*). *Mitani* relates to a method for cleaning a glass substrate for use in a magnetic recording disc or a liquid crystal display (*see col. 1, lines 8-11 of Mitani*). None of *Ikeda*, *Ishibashi* and *Mitani* teaches, discloses or suggests that a surface smoothness of a surface of a transparent conductive film on a substrate should be controlled to satisfy $0 \text{ nm} \leq R_z \leq 8 \text{ nm}$.

Therefore, applicants respectfully submit that the above-discussed fundamental and advantageous differences between amended claim 1 and the prior art clearly and patentably distinguish amended claim 1 thereover under 35 U.S.C. 103(a).

Dependent Claims 2-13

Claims 2-13 depend, either directly or indirectly, from claim 1 and, thus, each is allowable therewith.

Moreover, these claims include features which serve to even more clearly distinguish the present invention over the prior art of record.

Conclusion

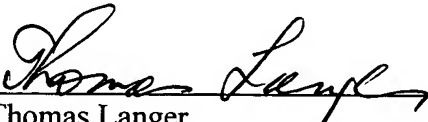
Based on all of the above, it is respectfully submitted that the present application is now in proper condition for allowance. Prompt and favorable action to this effect and early passing of this application to issue are respectfully solicited.

Should the Examiner have any comments, questions, suggestions or objections, the Examiner is respectfully requested to telephone the undersigned in order to facilitate reaching a resolution of any outstanding issues.

It is believed that no fees or charges are required at this time in connection with the application; however, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

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